

**#10: What is delirium? Who is at risk for developing it? Can it be prevented and treated
What is the relationship between it and surgery?**

(a) What is delirium?

Delirium is characterized by a fluctuating pattern of disturbance, disorganized thinking, impaired orientation and attention, and altered level of consciousness. Perception, memory and language may also be impaired. There are three types of delirium: hyperactive (agitated), hypoactive (quiet) and mixed (both features). Some of the features of delirium overlap with those of dementia and depression, and because of this, delirium can sometimes be confused with those conditions (see FAQ#7). Delirium was formerly thought to be short term and fully reversible, but it is now known that many cases persist for over 30 days, and in some cases cognition does not return to baseline level. This is particularly true of people with pre-existing cognitive impairment. Delirium is known to complicate treatment, prolong hospital stays, and is associated with increased mortality.

(b) Who is at risk for developing delirium?

There are many underlying factors which make a person vulnerable to developing a delirium. These **predisposing** factors include:

- Advanced age (>80)
- Male gender
- Pre-existing cognitive impairment
- Depression
- Severe medical illness, abnormal lab findings
- Dehydration
- Preexisting physical and functional impairments

There are many factors which can provoke a delirium in vulnerable people. These **precipitating** factors include:

- Uncontrolled pain
- Narcotics, sedation and other medications; withdrawal from medications or ETOH
- Changes in routines and environment
- Infections
- Metabolic disturbances (eg electrolyte imbalance)
- Vascular issues (e.g. stroke)
- Endocrine issues (e.g thyroid, glucose etc)
- Trauma
- Seizures
- Surgery
- Immobilization, restraints
- Dehydration
- Sensory overload or deprivation
- Sleep deprivation
- Urinary retention, fecal impaction, indwelling catheters
- Absence of hearing aids, glasses, orienting devices

(c) How can delirium be prevented and treated?

Addressing the precipitating causes can help to prevent delirium or can ameliorate the symptoms if they are already present. In addition to addressing medical issues, treatment can also include interventions to:

- promote sleep (reduce noise, warm drink, back rub, relaxation tape),
- ensure appropriate level of environmental stimulation (avoid over and under stimulation)
- improve orientation (eg ensure that hearing aids, glasses are used; provide orientation protocol including calendars, white boards with orienting information)
- stimulate cognition (e.g. stimulating therapeutic activities)
- ensure hydration
- encourage early mobility
- minimize use of catheters, restraints

(d) What is the relationship between surgery and delirium?

Surgery can precipitate a delirium. Post-surgery there can be “emergence” delirium which is characterized by psychomotor agitation, restlessness, and can include physical aggression. This usually passes within hours to a few days. It is more common in children and young adults. Post-operative delirium is described as occurring 24-72 hours post surgery but can occur anytime during the recovery. This is more common with older adults. Prolonged delirium can occur post-surgery. This impacts on recovery time and is associated with worsened outcomes (an increased rate of mortality). When post-operative delirium persists, it is sometimes described as “post-operative cognitive dysfunction”.

References:

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